

REMARKS

Applicant thanks the Examiner for the attention accorded the present Application in the June 18, 2003 Advisory Action, in which claims 1-21 and 37-45 were pending. In the Advisory Action, it was noted that the amendments filed in response to the Final Office Action will not be entered because they raise new issues that would require further consideration and/or search, because both qualitative and quantitative measurement was not previously considered.

In the Final Office Action dated April 3, 2003, claims 22-36 were withdrawn from consideration; claims 1, 3-5, 12-13, 16-20, 37-39, 41, 43 and 45 were rejected under 35 U.S.C. §102(b) as being anticipated by Barisci; claims 14, 15 and 40 were rejected under 35 U.S.C. §103(a) as being unpatentable over Barisci; and claims 2, 6-11, 21, 42 and 44 were rejected under 35 U.S.C. §103(a) as being unpatentable over Barisci in view of Mansky.

Claims 1, 21 and 37 have been amended to make it clear that each sensor of Applicant's invention is capable of performing as a dual-function sensor, measuring both quantitative and qualitative information about analytes. The amendments made to these claims have been made for clarification purposes only, not for reasons related to patentability. No new matter has been added, and the amendments are fully supported throughout the specification, as more fully described below.

Claims 1-21 and 37-45 are now currently pending in this Application. Based on the above amendments, Applicant respectfully submits that the rejections to claims 1-21 and 37-45 have been overcome. Reconsideration of this Application, and allowance of claims 1-21 and 37-45, is respectfully requested in view of the foregoing amendments and the following remarks.

35 U.S.C. § 102(b) and 103(a) rejections

Claims 1, 3-5, 12-13, 16-20, 37-39, 41, 43 and 45 stand rejected under 35 U.S.C. §102(b) as being anticipated by Barisci; claims 14, 15 and 40 were rejected under 35 U.S.C. §103(a) as being unpatentable over Barisci; and claims 2, 6-11, 21, 42 and 44 were rejected under 35 U.S.C. §103(a) as being unpatentable over Barisci in view of

Mansky. Applicant respectfully disagrees with the Examiner's conclusion and submits that the present invention is not anticipated by, not obvious in view, nor even suggested by, Barisci and/or Mansky.

As presently claimed in Applicant's independent claim 1, Applicant's invention comprises "[a] method for rapidly screening volatile substances in a sample, said method comprising ... monitoring a signal from said sensor element, *wherein said ... signal is capable of providing both qualitative and quantitative information about said volatile substances in said sample.*"¹ The amendments to this claim are supported by Applicant's specification at page 4, lines 16-18; page 5, lines 16-19; and page 5, lines 20-22, among other places. Applicant's specification notes that, in embodiments, "the detection concept involves temporal modulation of the concentration of analyte vapor and *measurement of both the temporal profile of the sensor response and the magnitude of the signal change at a given time.* This approach allows for a reduction of the number of sensor elements necessary for effective monitoring. Data handling is simplified because *both types of information (qualitative and quantitative) about the analytes are provided in the temporally modulated sensor output.*"² In Applicant's invention, it is by measuring both the temporal modulation of the concentration analyte vapor, as well as the magnitude of the response, that makes the robust, simultaneous identification and quantification of individual components in multi-component mixtures possible.

In contrast, Barisci does not disclose providing both qualitative and quantitative information about analytes in temporally modulated sensor output. Barisci discloses "a system for detection of gases or volatile organic compounds ... [using an] electronic nose."³ In fact, Barisci only measures changes in electrical resistance to identify the presence of a certain composition, but never mentions being able to measure the concentration of that composition without also utilizing pattern recognition data analysis in conjunction with an array of sensors. Furthermore, Barisci specifically teaches away from Applicant's invention in stating that "in many applications the overall composition or profile of the sample is more important than the accurate knowledge of the

¹ Applicant's spec., independent claim 1 (emphasis added). See also Applicant's independent claims 21 and 37, which have been similarly amended.

² Applicant's spec., pg. 5, lines 16-22 (emphasis added).

³ Barisci, Introduction, ¶ 4.

concentration of its components.”⁴ Therefore, Barisci does not anticipate, nor even suggest, providing both qualitative and quantitative information about analytes in temporally modulated sensor output, as recited in independent claims 1, 21 and 37 of Applicant’s invention.

Mansky fails to cure the deficiencies of Barisci. Mansky does not disclose providing both qualitative and quantitative information about analytes in temporally modulated sensor output either. Mansky discloses “[a] method for characterizing one or more material properties for each of five (5) or more samples.”⁵ Mansky provides “an apparatus (or system) and method for testing materials in an array format using sensors that contact the materials being tested.”⁶ Mansky only measures a property (mechanical, electrical or thermal) of each sample.⁷ Mansky never even mentions providing both qualitative and quantitative information about analytes. Therefore, Mansky does not anticipate, nor even suggest, providing both qualitative and quantitative information about analytes in temporally modulated sensor output, as recited in independent claims 1, 21 and 37 of Applicant’s invention.

Applicant respectfully submits that the above amendments and arguments overcome the rejections to Applicant’s independent claims 1, 21 and 37. As claims 2-20 depend from claim 1, and claims 38-45 depend from claim 37, the discussion above applies to these claims as well. Further, these claims each include separate novel features. Thus, Applicants respectfully request allowance of pending claims 1, 3-5, 12-13, 16-20, 37-39, 41, 43 and 45.

CONCLUSION

Applicant respectfully submits that the amendments to the claims successfully traverse the rejections given by the Examiner in the Final Office Action. For the above reasons, it is respectfully submitted that the claims now pending patentably distinguish

⁴ Barisci, Introduction, ¶ 2.

⁵ Mansky, Abstract and claims 1, 3, and 8.

⁶ Mansky, Summary of the Invention, ¶ 1.

⁷ Mansky, Summary of the Invention, ¶ 1.

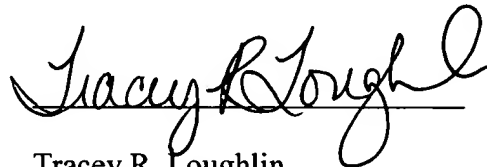
the present invention from the cited references. Allowance of pending claims 1-21 and 37-45 is therefore respectfully requested.

As this request for continued examination ("RCE") is being timely filed within three (3) months of the mailing date of the Final Office Action, Applicants believe that there is no fee due for the filing of this response. If this is incorrect, however, the Commissioner is authorized to charge any additional fees that may be due, or credit any overpayment, to **Deposit Account No. 04-1448**.

Should the Examiner have any questions, or determine that any further action is necessary to place this Application into better form for allowance, the Examiner is encouraged to telephone the undersigned representative at the number listed below.

Respectfully submitted,

Date: 07/03/03

A handwritten signature in black ink, appearing to read "Tracey R. Loughlin", written over a horizontal line.

Tracey R. Loughlin
Attorney for Applicant
Registration No. 51,969

Dougherty, Clements & Hofer
1901 Roxborough Road, Suite 300
Charlotte, NC 28211
704-366-6642 Telephone
704-366-9744 Facsimile